

WHAT IS CLAIMED IS:

1. A 3D video camera system comprising:

a first camera providing an RGB output representing a left eye presentation in a 3D or stereoscopic scene;

- 5 a second camera providing an RGB output representing a right eye presentation in a 3D or stereoscopic scene;

a clock generator generating a clock pulse at a frequency up to four times a color system subcarrier frequency said clock pulse being coupled to a clock input of each camera;

- 10 a frame reset pulse coupled to a field rate pulse input of said camera(s), wherein said frame reset pulses synchronizes frame start points of said cameras;

an RGB output of each camera and a field ID pulse are coupled to a multiplexer;

- 15 said multiplexer switches said RGB output of said camera representing said left eye representation during a first field of a frame to an RGB output;

said multiplexer switches said RGB output of said camera representing said right eye representation during a second field of a frame to said RGB output.

- 20 2. The 3D camera system of claim 1 wherein said first and second cameras are solid-state cameras.

3. The 3D video camera system of claim 1 further comprising:

an RGB encoder with RGB input signals coupled from an RGB output of said multiplexer;

said clock pulse coupled to a clock input of said RGB encoder;

a composite sync signal coupled from a composite sync output of either solid state camera; and

a composite video or S-video output, wherein said RGB encoder provides a composite video output or S-Video output with one field having a representation of said left eye image and the other field having a representation of said right eye image.

4. The 3D camera system of claim 3 wherein field one has a representation of said left eye image and field two has a representation of said right eye image.

5. The 3D camera system of claim 3 wherein field one has a representation of said right eye and field two has a representation of said left eye image.

6. The 3D camera system of claim 3 wherein said composite signal is an NTSC video signal.

7. The 3D camera system of claim 3 wherein said composite signal is a PAL video signal.

8. The 3D camera system of claim 3 wherein said S-video signal is a 525/60 signal.

9. The 3D camera system of claim 3 wherein said S video signal is a 625/50 signal.

10. A method of synchronizing video cameras in a 3D camera system comprising :

providing first and second cameras, each camera having a clock pulse input, a frame reset pulse output, a frame-reset pulse input, a field identification pulse output and a set of RGB video output signals;

09745230-122100

providing a multiplexer with a field identification pulse input, a first and second set of RGB inputs and a set of multiplexed RGB outputs; providing a clock pulse into said first camera and said second camera;

5 coupling a frame reset pulse from either camera or to the other camera, wherein said clock pulse and said frame reset pulse provides a synchronization of the RGB outputs of said first camera and said second cameras;

10 coupling a field identification pulse from either camera to said field identification input of said multiplexer; and providing multiplexed RGB outputs of said first camera and said second camera wherein said RGB outputs of said first camera appear during one field of said multiplexed signal and said RGB outputs of said second camera appear during the other field of the multiplexed.

11. The method claim 10 wherein said plurality of cameras is two cameras used in a 3D camera system.

12. A method of synchronizing video cameras comprising:
15 providing a plurality of video cameras, each camera having a clock pulse input, a frame reset pulse output, a frame-reset pulse input, a field identification pulse output and a set of RGB video output signals;

providing a clock pulse into said first camera and said second camera;

20 coupling a frame reset pulse from one of said cameras to a frame reset pulse input to remaining said cameras, wherein said clock pulse and said frame reset pulse provides a synchronization of the RGB outputs of said plurality of cameras.

13. A method of mechanically adjusting the aiming of 3D
25 lens/cameras within a 3D or stereoscopic camera system, comprising:

simultaneously rotating about their horizontal axes both said 3D lens/ cameras with one adjustment; and

09745230-122100

rotating about a vertical axis of said camera system a first said 3D lens/camera with respect to a vertical axis position +of a second said 3D lens/camera, wherein said rotation adjustments provide optimum axes adjustments for a 3D display of a stereoscopic scene.

5

14. A 3D camera adjustment system comprising:

a first camera lens and camera circuitry mounted on a first mounting surface;

a second camera lens and camera circuitry mounted on a second mounting surface;

10

each mounting surface mounted with a three position support structure with two of said support structures being furthest from a horizontal center of the system and a remaining support structure for each mounting surface being both at a top or bottom of said mounting surfaces and nearest to the horizontal center of said system;

15

both mounting surfaces having a first of said outside support structures in a fixed rotational position whereas one mounting surface having a second of said outside support structure in an adjustable rotational position and the other mounting surface having both support structures in a fixed rotational position wherein said adjustable support position rotates its mounting surface and lens camera combination about a vertical axis of the other mounting surface camera lens combination;

20

said third support position for each mounting surface lens camera coupled to a common adjustment fixture for rotating about a vertical axis of each mounting surface camera lens combination wherein said common adjustment fixture further comprises a moveable T-bar arrangement having a rotational adjustment spring combination and further wherein said adjustment moves each camera lens combination so that their optical axes converge at selected points.

25

001222T" 022511/260